

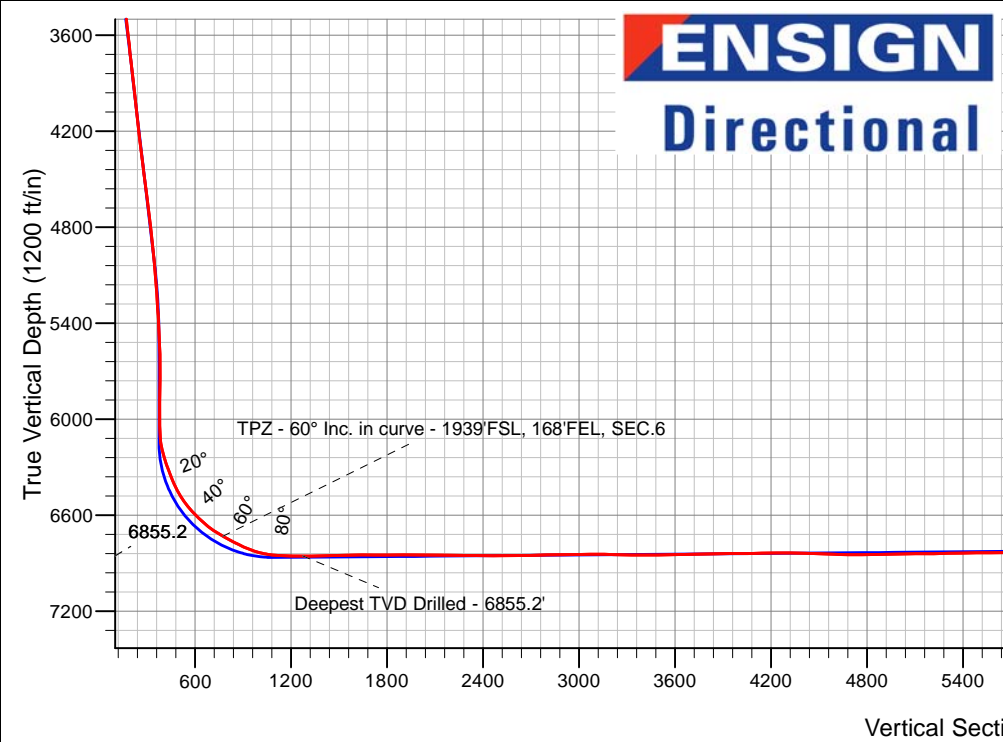
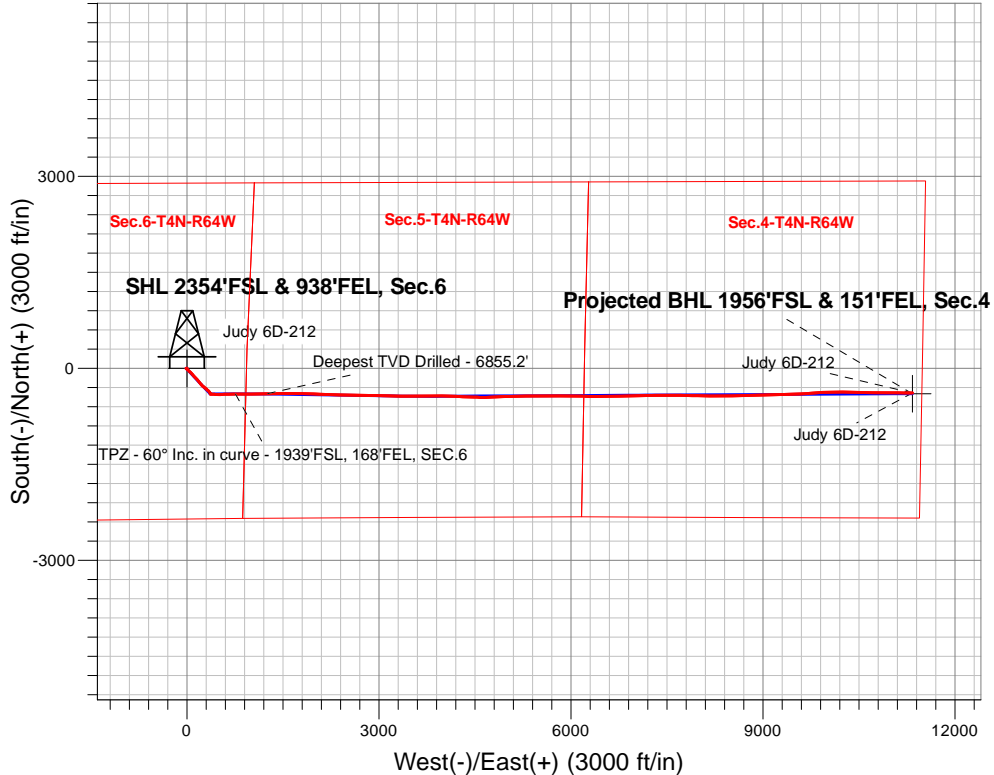
PDC Energy Inc. DJ Basin

Well Name: **Judy 6D-212**

Surface Location: Judy 4N64W6S Pad Sec.6-T4N-R64W
 North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
 Ground Elevation: 4795.0
 +N/-S+E/-W Northing Easting Longitude Slot
 0.0 0.0 1368202.00 3254467.89 40.340520 -104.587110
 Original Well Elev WELL @ 4818.0ft (Original Well Elev)

FINAL SURVEY

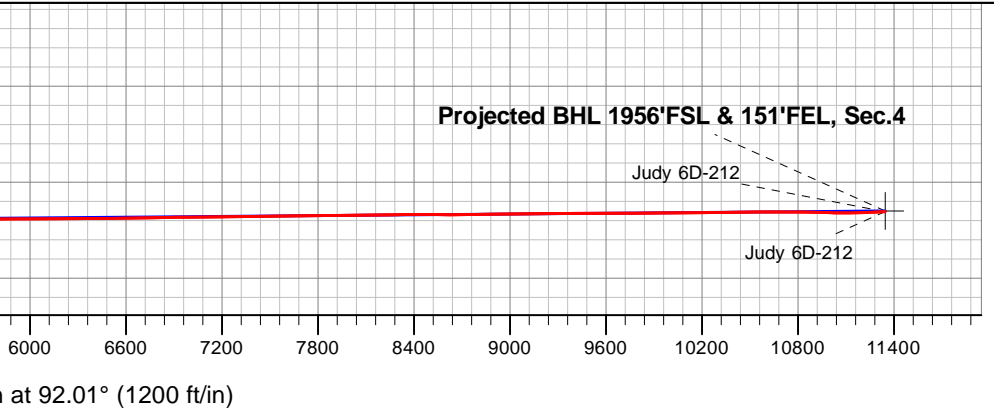
Projected Bottom Hole Location
17,521'MD 6785'TVD 386'S & 11336'E of SHL
92.2 degree Incl @ 90.3 degree AZM



Judy 4N64W6S Pad Sec.6-T4N-R64W
 Judy 6D-212
 Judy 6D-212 Wellbore #1
 12:21, October 04 2018

ANNOTATIONS			
TVD	MD	Annotation	
6731.7	6914.2	TPZ - 60° Inc. in curve - 1939'FSL, 168'FEL, SEC.6	
6855.2	7438.0	Deepest TVD Drilled - 6855.2'	

LEGEND	
	Judy 6D-212, Judy 6D-212 Wellbore #1, Plan #2 (9-28-18) V0
	Judy 6D-212 Wellbore #1
	Survey #1



Vertical Section at 92.01° (1200 ft/in)



PDC Energy Inc. DJ Basin

SEC.6-T4N-R64W

Judy 4N64W6S Pad Sec.6-T4N-R64W

Judy 6D-212

Judy 6D-212 Wellbore #1

Survey: Survey #1

Standard Survey Report

04 October, 2018



Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Judy 6D-212
Project:	SEC.6-T4N-R64W	TVD Reference:	WELL @ 4818.0ft (Original Well Elev)
Site:	Judy 4N64W6S Pad Sec.6-T4N-R64W	MD Reference:	WELL @ 4818.0ft (Original Well Elev)
Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Project	SEC.6-T4N-R64W, Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Judy 4N64W6S Pad Sec.6-T4N-R64W				
Site Position:		Northing:	1,368,263.94 usft	Latitude:	40.340690
From:	Lat/Long	Easting:	3,254,467.26 usft	Longitude:	-104.587110
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.59 °

Well	Judy 6D-212					
Well Position	+N/-S	0.0 ft	Northing:	1,368,202.00 usft	Latitude:	40.340520
	+E/-W	0.0 ft	Easting:	3,254,467.90 usft	Longitude:	-104.587110
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	4,795.0 ft

Wellbore	Judy 6D-212 Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/27/2018	8.20	66.85	52,213

Design	Judy 6D-212 Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	92.01	

Survey Program	Date	10/4/2018			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
145.0	17,521.0	Survey #1 (Judy 6D-212 Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
145.0	1.00	287.40	145.0	0.4	-1.2	-1.2	0.69	0.69	0.00	
236.0	0.80	293.90	236.0	0.9	-2.5	-2.6	0.25	-0.22	7.14	
325.0	0.80	278.70	325.0	1.2	-3.7	-3.8	0.24	0.00	-17.08	
416.0	0.60	269.10	416.0	1.3	-4.8	-4.9	0.25	-0.22	-10.55	
506.0	0.40	284.40	506.0	1.4	-5.6	-5.7	0.27	-0.22	17.00	
596.0	0.40	240.60	596.0	1.3	-6.2	-6.2	0.33	0.00	-48.67	
686.0	0.40	258.20	686.0	1.1	-6.8	-6.8	0.14	0.00	19.56	
775.0	0.40	247.80	775.0	0.9	-7.4	-7.4	0.08	0.00	-11.69	
865.0	0.50	231.30	865.0	0.5	-8.0	-8.0	0.18	0.11	-18.33	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Judy 6D-212
Project:	SEC.6-T4N-R64W	TVD Reference:	WELL @ 4818.0ft (Original Well Elev)
Site:	Judy 4N64W6S Pad Sec.6-T4N-R64W	MD Reference:	WELL @ 4818.0ft (Original Well Elev)
Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
955.0	0.90	228.30	954.9	-0.2	-8.8	-8.8	0.45	0.44	-3.33	
1,045.0	1.10	229.90	1,044.9	-1.2	-10.0	-9.9	0.22	0.22	1.78	
1,134.0	1.10	241.30	1,133.9	-2.2	-11.4	-11.3	0.25	0.00	12.81	
1,224.0	0.40	302.70	1,223.9	-2.4	-12.4	-12.3	1.08	-0.78	68.22	
1,314.0	0.60	296.70	1,313.9	-2.0	-13.1	-13.0	0.23	0.22	-6.67	
1,403.0	0.80	295.60	1,402.9	-1.6	-14.1	-14.0	0.23	0.22	-1.24	
1,493.0	0.90	286.10	1,492.9	-1.1	-15.3	-15.3	0.19	0.11	-10.56	
1,583.0	1.10	130.40	1,582.9	-1.4	-15.3	-15.3	2.17	0.22	-173.00	
1,632.0	1.40	133.20	1,631.9	-2.2	-14.5	-14.5	0.62	0.61	5.71	
1,760.0	2.50	126.90	1,759.8	-4.9	-11.2	-11.0	0.87	0.86	-4.92	
1,850.0	3.90	128.30	1,849.7	-8.0	-7.2	-6.9	1.56	1.56	1.56	
1,939.0	5.70	133.00	1,938.3	-12.9	-1.6	-1.1	2.07	2.02	5.28	
2,028.0	5.60	125.80	2,026.9	-18.4	5.2	5.8	0.80	-0.11	-8.09	
2,118.0	6.90	131.10	2,116.4	-24.6	12.8	13.7	1.58	1.44	5.89	
2,207.0	8.70	131.20	2,204.5	-32.5	21.9	23.0	2.02	2.02	0.11	
2,297.0	9.30	132.70	2,293.4	-41.9	32.4	33.8	0.72	0.67	1.67	
2,386.0	9.10	130.70	2,381.3	-51.4	43.0	44.8	0.42	-0.22	-2.25	
2,476.0	9.20	135.60	2,470.1	-61.2	53.4	55.5	0.87	0.11	5.44	
2,565.0	8.10	134.10	2,558.1	-70.6	62.9	65.3	1.26	-1.24	-1.69	
2,655.0	9.20	139.00	2,647.1	-80.5	72.2	74.9	1.47	1.22	5.44	
2,745.0	9.30	139.00	2,735.9	-91.4	81.7	84.8	0.11	0.11	0.00	
2,835.0	9.60	142.10	2,824.7	-102.8	91.0	94.6	0.66	0.33	3.44	
2,925.0	9.50	140.70	2,913.5	-114.5	100.4	104.3	0.28	-0.11	-1.56	
3,015.0	9.10	136.90	3,002.3	-125.4	109.9	114.2	0.81	-0.44	-4.22	
3,105.0	8.90	137.00	3,091.2	-135.7	119.5	124.2	0.22	-0.22	0.11	
3,194.0	10.90	137.00	3,178.9	-146.9	130.0	135.0	2.25	2.25	0.00	
3,283.0	9.00	134.40	3,266.5	-157.9	140.7	146.1	2.19	-2.13	-2.92	
3,373.0	7.50	134.90	3,355.6	-167.0	149.9	155.6	1.67	-1.67	0.56	
3,463.0	8.10	135.30	3,444.7	-175.6	158.5	164.5	0.67	0.67	0.44	
3,552.0	9.20	139.50	3,532.7	-185.5	167.5	173.9	1.42	1.24	4.72	
3,642.0	9.70	138.60	3,621.5	-196.7	177.2	184.0	0.58	0.56	-1.00	
3,732.0	8.40	140.90	3,710.4	-207.4	186.4	193.5	1.50	-1.44	2.56	
3,822.0	10.40	141.40	3,799.2	-218.9	195.6	203.1	2.22	2.22	0.56	
3,912.0	10.10	142.80	3,887.7	-231.5	205.4	213.4	0.43	-0.33	1.56	
4,002.0	10.10	142.70	3,976.3	-244.1	215.0	223.4	0.02	0.00	-0.11	
4,092.0	9.20	138.60	4,065.1	-255.8	224.5	233.3	1.26	-1.00	-4.56	
4,181.0	7.70	135.50	4,153.1	-265.4	233.4	242.5	1.76	-1.69	-3.48	
4,271.0	9.60	132.70	4,242.1	-274.7	243.1	252.6	2.16	2.11	-3.11	
4,361.0	8.40	130.20	4,331.0	-284.1	253.7	263.5	1.40	-1.33	-2.78	
4,450.0	9.40	130.90	4,418.9	-293.0	264.1	274.2	1.13	1.12	0.79	
4,540.0	8.10	124.00	4,507.8	-301.4	275.0	285.3	1.85	-1.44	-7.67	
4,630.0	9.90	127.20	4,596.7	-309.6	286.4	297.0	2.08	2.00	3.56	
4,719.0	8.40	132.80	4,684.6	-318.7	297.2	308.2	1.96	-1.69	6.29	
4,809.0	9.40	137.80	4,773.5	-328.6	307.0	318.3	1.40	1.11	5.56	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Judy 6D-212
Project:	SEC.6-T4N-R64W	TVD Reference:	WELL @ 4818.0ft (Original Well Elev)
Site:	Judy 4N64W6S Pad Sec.6-T4N-R64W	MD Reference:	WELL @ 4818.0ft (Original Well Elev)
Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,899.0	8.40	132.30	4,862.4	-338.4	316.8	328.4	1.46	-1.11	-6.11	
4,989.0	7.10	125.80	4,951.6	-346.1	326.2	338.1	1.74	-1.44	-7.22	
5,079.0	6.50	125.10	5,041.0	-352.3	334.9	347.0	0.67	-0.67	-0.78	
5,169.0	7.00	140.60	5,130.4	-359.5	342.5	354.9	2.09	0.56	17.22	
5,258.0	6.50	150.60	5,218.7	-368.0	348.4	361.1	1.43	-0.56	11.24	
5,348.0	6.00	148.50	5,308.2	-376.5	353.4	366.3	0.61	-0.56	-2.33	
5,438.0	5.00	145.70	5,397.8	-383.7	358.0	371.3	1.15	-1.11	-3.11	
5,528.0	4.50	143.60	5,487.5	-389.8	362.4	375.8	0.59	-0.56	-2.33	
5,618.0	2.80	161.30	5,577.3	-394.8	365.2	378.7	2.24	-1.89	19.67	
5,708.0	2.50	150.90	5,667.2	-398.5	366.8	380.5	0.63	-0.33	-11.56	
5,797.0	1.40	219.30	5,756.2	-401.1	367.1	380.9	2.67	-1.24	76.85	
5,887.0	1.70	203.80	5,846.1	-403.2	365.8	379.7	0.57	0.33	-17.22	
5,978.0	0.40	264.80	5,937.1	-404.4	365.0	378.9	1.70	-1.43	67.03	
6,068.0	1.10	182.90	6,027.1	-405.3	364.6	378.6	1.24	0.78	-91.00	
6,158.0	4.90	97.80	6,117.0	-406.7	368.4	382.4	5.48	4.22	-94.56	
6,248.0	14.50	90.60	6,205.6	-407.3	383.5	397.5	10.73	10.67	-8.00	
6,338.0	19.50	89.90	6,291.6	-407.4	409.8	423.8	5.56	5.56	-0.78	
6,427.0	22.30	92.20	6,374.8	-408.1	441.5	455.5	3.28	3.15	2.58	
6,517.0	28.50	90.80	6,456.0	-409.0	480.1	494.1	6.92	6.89	-1.56	
6,607.0	37.90	89.10	6,531.3	-408.9	529.3	543.3	10.49	10.44	-1.89	
6,697.0	44.40	87.50	6,599.0	-407.1	588.5	602.4	7.32	7.22	-1.78	
6,786.0	50.00	89.10	6,659.5	-405.2	653.7	667.5	6.43	6.29	1.80	
6,876.0	58.30	89.60	6,712.1	-404.4	726.6	740.3	9.23	9.22	0.56	
6,914.2	60.00	90.12	6,731.7	-404.3	759.4	773.1	4.59	4.44	1.36	
TPZ - 60° Inc. in curve - 1939'FSL, 168'FEL, SEC.6										
6,966.0	62.30	90.80	6,756.7	-404.7	804.8	818.4	4.59	4.45	1.31	
7,056.0	64.70	91.00	6,796.9	-405.9	885.3	899.0	2.67	2.67	0.22	
7,146.0	73.40	88.50	6,829.0	-405.5	969.3	982.8	10.01	9.67	-2.78	
7,236.0	82.30	87.50	6,847.9	-402.4	1,057.1	1,070.5	9.95	9.89	-1.11	
7,326.0	88.50	87.10	6,855.1	-398.2	1,146.7	1,159.9	6.90	6.89	-0.44	
7,438.0	91.47	89.88	6,855.2	-395.2	1,258.6	1,271.7	3.63	2.65	2.48	
Deepest TVD Drilled - 6855.2'										
7,439.0	91.50	89.90	6,855.1	-395.2	1,259.6	1,272.7	3.63	2.65	2.48	
7,528.0	89.90	88.90	6,854.1	-394.3	1,348.6	1,361.6	2.12	-1.80	-1.12	
7,619.0	91.30	89.60	6,853.1	-393.1	1,439.6	1,452.4	1.72	1.54	0.77	
7,708.0	90.70	90.10	6,851.6	-392.9	1,528.6	1,541.4	0.88	-0.67	0.56	
7,799.0	90.70	90.30	6,850.4	-393.2	1,619.5	1,632.3	0.22	0.00	0.22	
7,889.0	90.20	89.40	6,849.7	-393.0	1,709.5	1,722.2	1.14	-0.56	-1.00	
7,979.0	90.40	92.40	6,849.3	-394.4	1,799.5	1,812.2	3.34	0.22	3.33	
8,068.0	90.20	92.20	6,848.8	-397.9	1,888.4	1,901.2	0.32	-0.22	-0.22	
8,158.0	90.00	92.20	6,848.6	-401.4	1,978.4	1,991.2	0.22	-0.22	0.00	
8,248.0	89.30	92.60	6,849.2	-405.2	2,068.3	2,081.2	0.90	-0.78	0.44	
8,338.0	88.50	92.60	6,850.9	-409.3	2,158.2	2,171.2	0.89	-0.89	0.00	

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Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,428.0	89.90	91.30	6,852.2	-412.3	2,248.1	2,261.2	2.12	1.56	-1.44
8,518.0	89.10	91.30	6,853.0	-414.4	2,338.1	2,351.2	0.89	-0.89	0.00
8,607.0	90.20	91.30	6,853.5	-416.4	2,427.1	2,440.2	1.24	1.24	0.00
8,697.0	89.30	91.50	6,853.9	-418.6	2,517.0	2,530.1	1.02	-1.00	0.22
8,786.0	91.40	90.80	6,853.4	-420.4	2,606.0	2,619.1	2.49	2.36	-0.79
8,876.0	91.40	90.60	6,851.2	-421.5	2,696.0	2,709.1	0.22	0.00	-0.22
8,966.0	91.10	90.50	6,849.2	-422.3	2,786.0	2,799.0	0.35	-0.33	-0.11
9,056.0	91.20	91.50	6,847.4	-423.9	2,875.9	2,889.0	1.12	0.11	1.11
9,146.0	90.80	91.70	6,845.8	-426.4	2,965.9	2,979.0	0.50	-0.44	0.22
9,235.0	90.20	91.50	6,845.0	-428.9	3,054.8	3,068.0	0.71	-0.67	-0.22
9,325.0	89.40	91.30	6,845.4	-431.1	3,144.8	3,158.0	0.92	-0.89	-0.22
9,413.0	88.10	91.50	6,847.3	-433.2	3,232.8	3,245.9	1.49	-1.48	0.23
9,504.0	89.30	91.20	6,849.3	-435.4	3,323.7	3,336.9	1.36	1.32	-0.33
9,593.0	89.50	91.00	6,850.3	-437.1	3,412.7	3,425.9	0.32	0.22	-0.22
9,683.0	91.50	89.80	6,849.5	-437.7	3,502.7	3,515.8	2.59	2.22	-1.33
9,773.0	91.50	89.10	6,847.1	-436.9	3,592.6	3,605.7	0.78	0.00	-0.78
9,863.0	91.30	88.90	6,844.9	-435.3	3,682.6	3,695.6	0.31	-0.22	-0.22
9,953.0	91.00	88.40	6,843.1	-433.2	3,772.6	3,785.4	0.65	-0.33	-0.56
10,043.0	91.30	90.30	6,841.3	-432.1	3,862.5	3,875.3	2.14	0.33	2.11
10,132.0	89.80	89.10	6,840.5	-431.7	3,951.5	3,964.2	2.16	-1.69	-1.35
10,222.0	91.20	91.70	6,839.7	-432.3	4,041.5	4,054.2	3.28	1.56	2.89
10,311.0	90.70	93.10	6,838.2	-436.0	4,130.4	4,143.1	1.67	-0.56	1.57
10,401.0	90.90	94.00	6,836.9	-441.6	4,220.2	4,233.1	1.02	0.22	1.00
10,491.0	89.20	91.50	6,836.9	-445.9	4,310.1	4,323.1	3.36	-1.89	-2.78
10,580.0	88.50	91.90	6,838.6	-448.6	4,399.1	4,412.1	0.91	-0.79	0.45
10,670.0	87.80	91.90	6,841.6	-451.5	4,489.0	4,502.0	0.78	-0.78	0.00
10,759.0	87.90	90.30	6,844.9	-453.3	4,577.9	4,590.9	1.80	0.11	-1.80
10,849.0	89.00	89.20	6,847.3	-452.9	4,667.8	4,680.8	1.73	1.22	-1.22
10,938.0	90.50	88.00	6,847.7	-450.7	4,756.8	4,769.7	2.16	1.69	-1.35
11,028.0	91.70	88.00	6,846.0	-447.5	4,846.7	4,859.4	1.33	1.33	0.00
11,117.0	91.20	87.80	6,843.7	-444.3	4,935.6	4,948.2	0.61	-0.56	-0.22
11,207.0	90.70	88.00	6,842.2	-441.0	5,025.6	5,037.9	0.60	-0.56	0.22
11,296.0	89.90	87.70	6,841.8	-437.6	5,114.5	5,126.7	0.96	-0.90	-0.34
11,386.0	91.10	88.70	6,841.0	-434.8	5,204.5	5,216.5	1.74	1.33	1.11
11,476.0	91.40	89.80	6,839.0	-433.6	5,294.4	5,306.4	1.27	0.33	1.22
11,566.0	90.90	89.90	6,837.2	-433.4	5,384.4	5,396.3	0.57	-0.56	0.11
11,655.0	90.70	90.30	6,836.0	-433.6	5,473.4	5,485.2	0.50	-0.22	0.45
11,745.0	90.20	90.50	6,835.3	-434.2	5,563.4	5,575.2	0.60	-0.56	0.22
11,834.0	91.50	89.90	6,834.0	-434.5	5,652.4	5,664.1	1.61	1.46	-0.67
11,923.0	91.00	89.60	6,832.0	-434.1	5,741.4	5,753.0	0.66	-0.56	-0.34
12,013.0	90.30	89.60	6,831.0	-433.5	5,831.3	5,842.9	0.78	-0.78	0.00
12,102.0	90.10	90.10	6,830.7	-433.3	5,920.3	5,931.9	0.61	-0.22	0.56
12,192.0	91.20	90.10	6,829.7	-433.4	6,010.3	6,021.8	1.22	1.22	0.00
12,281.0	90.50	91.00	6,828.3	-434.3	6,099.3	6,110.8	1.28	-0.79	1.01

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Judy 6D-212
Project:	SEC.6-T4N-R64W	TVD Reference:	WELL @ 4818.0ft (Original Well Elev)
Site:	Judy 4N64W6S Pad Sec.6-T4N-R64W	MD Reference:	WELL @ 4818.0ft (Original Well Elev)
Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,371.0	89.90	91.30	6,828.0	-436.1	6,189.3	6,200.8	0.75	-0.67	0.33	
12,461.0	89.50	91.30	6,828.5	-438.1	6,279.3	6,290.8	0.44	-0.44	0.00	
12,550.0	90.70	90.60	6,828.3	-439.6	6,368.3	6,379.7	1.56	1.35	-0.79	
12,640.0	90.00	90.30	6,827.8	-440.3	6,458.3	6,469.7	0.85	-0.78	-0.33	
12,729.0	91.60	89.10	6,826.5	-439.8	6,547.2	6,558.6	2.25	1.80	-1.35	
12,819.0	91.40	88.90	6,824.2	-438.3	6,637.2	6,648.5	0.31	-0.22	-0.22	
12,909.0	91.00	89.80	6,822.3	-437.2	6,727.2	6,738.4	1.09	-0.44	1.00	
12,998.0	90.30	87.50	6,821.3	-435.1	6,816.1	6,827.2	2.70	-0.79	-2.58	
13,088.0	91.10	88.40	6,820.2	-431.9	6,906.1	6,917.0	1.34	0.89	1.00	
13,178.0	89.90	86.80	6,819.4	-428.2	6,996.0	7,006.7	2.22	-1.33	-1.78	
13,268.0	90.40	89.40	6,819.2	-425.2	7,085.9	7,096.5	2.94	0.56	2.89	
13,358.0	91.80	87.80	6,817.4	-423.0	7,175.9	7,186.3	2.36	1.56	-1.78	
13,448.0	90.70	90.10	6,815.5	-421.3	7,265.8	7,276.1	2.83	-1.22	2.56	
13,537.0	89.70	89.90	6,815.2	-421.3	7,354.8	7,365.1	1.15	-1.12	-0.22	
13,627.0	90.70	90.80	6,814.9	-421.9	7,444.8	7,455.0	1.49	1.11	1.00	
13,718.0	89.80	90.60	6,814.5	-423.0	7,535.8	7,546.0	1.01	-0.99	-0.22	
13,807.0	91.90	90.80	6,813.1	-424.1	7,624.8	7,635.0	2.37	2.36	0.22	
13,897.0	91.80	90.30	6,810.2	-424.9	7,714.7	7,724.9	0.57	-0.11	-0.56	
13,986.0	90.70	90.30	6,808.3	-425.4	7,803.7	7,813.8	1.24	-1.24	0.00	
14,076.0	90.20	90.80	6,807.6	-426.3	7,893.7	7,903.8	0.79	-0.56	0.56	
14,165.0	89.70	92.20	6,807.7	-428.6	7,982.7	7,992.8	1.67	-0.56	1.57	
14,255.0	91.40	91.90	6,806.8	-431.8	8,072.6	8,082.8	1.92	1.89	-0.33	
14,345.0	90.30	91.30	6,805.5	-434.3	8,162.6	8,172.8	1.39	-1.22	-0.67	
14,435.0	91.00	89.40	6,804.4	-434.9	8,252.6	8,262.7	2.25	0.78	-2.11	
14,524.0	90.20	88.70	6,803.5	-433.4	8,341.5	8,351.6	1.19	-0.90	-0.79	
14,613.0	90.10	89.10	6,803.3	-431.7	8,430.5	8,440.5	0.46	-0.11	0.45	
14,703.0	89.80	88.90	6,803.4	-430.1	8,520.5	8,530.3	0.40	-0.33	-0.22	
14,792.0	89.30	88.70	6,804.1	-428.3	8,609.5	8,619.2	0.61	-0.56	-0.22	
14,881.0	91.50	88.70	6,803.4	-426.2	8,698.5	8,708.0	2.47	2.47	0.00	
14,971.0	91.10	88.50	6,801.4	-424.0	8,788.4	8,797.9	0.50	-0.44	-0.22	
15,060.0	90.30	88.00	6,800.3	-421.3	8,877.4	8,886.7	1.06	-0.90	-0.56	
15,150.0	89.50	87.70	6,800.5	-417.9	8,967.3	8,976.4	0.95	-0.89	-0.33	
15,239.0	91.60	89.20	6,799.6	-415.5	9,056.2	9,065.2	2.90	2.36	1.69	
15,328.0	91.10	88.70	6,797.5	-413.9	9,145.2	9,154.1	0.79	-0.56	-0.56	
15,419.0	90.60	88.40	6,796.2	-411.6	9,236.2	9,244.9	0.64	-0.55	-0.33	
15,508.0	89.80	88.20	6,795.9	-409.0	9,325.1	9,333.7	0.93	-0.90	-0.22	
15,598.0	89.20	88.40	6,796.6	-406.3	9,415.1	9,423.5	0.70	-0.67	0.22	
15,688.0	91.20	88.00	6,796.3	-403.5	9,505.0	9,513.3	2.27	2.22	-0.44	
15,777.0	90.70	88.00	6,794.9	-400.4	9,594.0	9,602.1	0.56	-0.56	0.00	
15,867.0	90.00	86.20	6,794.3	-395.8	9,683.8	9,691.8	2.15	-0.78	-2.00	
15,956.0	90.20	83.80	6,794.1	-388.1	9,772.5	9,780.1	2.71	0.22	-2.70	
16,046.0	90.00	85.90	6,794.0	-380.0	9,862.1	9,869.4	2.34	-0.22	2.33	
16,135.0	90.90	87.70	6,793.3	-375.0	9,951.0	9,958.0	2.26	1.01	2.02	

Company:	PDC Energy Inc. DJ Basin	Local Co-ordinate Reference:	Well Judy 6D-212
Project:	SEC.6-T4N-R64W	TVD Reference:	WELL @ 4818.0ft (Original Well Elev)
Site:	Judy 4N64W6S Pad Sec.6-T4N-R64W	MD Reference:	WELL @ 4818.0ft (Original Well Elev)
Well:	Judy 6D-212	North Reference:	True
Wellbore:	Judy 6D-212 Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Judy 6D-212 Wellbore #1	Database:	US_EDM

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,224.0	91.00	91.20	6,791.8	-374.2	10,040.0	10,046.9	3.93	0.11	3.93
16,314.0	89.50	87.10	6,791.4	-372.8	10,129.9	10,136.8	4.85	-1.67	-4.56
16,403.0	91.10	91.00	6,791.0	-371.3	10,218.9	10,225.6	4.74	1.80	4.38
16,492.0	90.80	89.80	6,789.5	-372.0	10,307.9	10,314.6	1.39	-0.34	-1.35
16,582.0	91.00	91.70	6,788.1	-373.1	10,397.9	10,404.5	2.12	0.22	2.11
16,671.0	90.20	90.80	6,787.1	-375.1	10,486.8	10,493.5	1.35	-0.90	-1.01
16,761.0	90.70	91.30	6,786.4	-376.7	10,576.8	10,583.5	0.79	0.56	0.56
16,850.0	90.10	91.90	6,785.8	-379.2	10,665.8	10,672.5	0.95	-0.67	0.67
16,940.0	89.40	91.50	6,786.2	-381.9	10,755.7	10,762.5	0.90	-0.78	-0.44
17,030.0	88.80	90.50	6,787.6	-383.5	10,845.7	10,852.5	1.30	-0.67	-1.11
17,120.0	88.10	89.90	6,790.0	-383.8	10,935.7	10,942.4	1.02	-0.78	-0.67
17,210.0	89.30	89.80	6,792.1	-383.5	11,025.6	11,032.3	1.34	1.33	-0.11
17,299.0	90.20	90.50	6,792.5	-383.8	11,114.6	11,121.3	1.28	1.01	0.79
17,389.0	92.30	90.60	6,790.5	-384.6	11,204.6	11,211.2	2.34	2.33	0.11
17,461.0	92.20	90.30	6,787.7	-385.2	11,276.6	11,283.1	0.44	-0.14	-0.42
17,521.0	92.20	90.30	6,785.4	-385.5	11,336.5	11,343.1	0.00	0.00	0.00

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL 2354'FSL & 938'FE - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,368,202.01	3,254,467.90	40.340520	-104.587110
BHL 1944'FSL & 150'FE - survey misses target center by 12.7ft at 17521.0ft MD (6785.4 TVD, -385.5 N, 11336.5 E) - Point	0.00	0.00	6,780.0	-397.0	11,337.3	1,367,921.78	3,265,808.21	40.339423	-104.546441

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
6,914.2	6,731.7	-404.3	759.4	TPZ - 60° Inc. in curve - 1939'FSL, 168'FEL, SEC.6
7,438.0	6,855.2	-395.2	1,258.6	Deepest TVD Drilled - 6855.2'

Checked By: _____ Approved By: _____ Date: _____